AMENDMENTS TO THE CLAIMS:

1. (Previously Presented) A method for controlling a synchronous permanent magnet multiple-phase motor, the motor having multiple phases and having a rotor, the method comprising:

controlling drive currents supplied to the phases of the motor by turning the drive currents off at a predetermined frequency;

measuring, at said predetermined frequency, induced voltages of at least two of the phases of the motor, when the drive currents in said at least two of the phases of the motor are turned off, with a sensitivity sufficient for obtaining significant voltage values at a near-zero speed of the rotor;

determining a position and/or a speed of the rotor from said measured induced voltages;

filtering the position and/or the speed of the frotor with a state filter to obtain a filtered rotor position and/or a filtered rotor speed; and

adjusting the drive currents according to the filtered rotor position and/or the filtered rotor speed.

2. (Previously Presented) The method according to claim 1, wherein the state filter is configured so as to take into account that when the speed of the rotor is very low, the position of the rotor does not change substantially over a short period of time.

3. (Original) The method according to claim 2, wherein said state filter is a Kalman filter.

4. (Previously Presented) The method according to any of claims 1 to 3, wherein the position, θ, of the rotor is determined by the formula:

$$\theta = \text{arctg}\left(\frac{Ua}{Ub}\right),$$

where Ua is the measured induced voltage in one of the phases of the motor and Ub is equal to $\frac{V2 - V3}{\sqrt{3}}$, $V2$ and $V3$ being the measured induced voltages in two others of the phases of the motor.

5. (Previously Presented) The method according to claim 1, wherein the speed of the rotor is determined by computing a square root of a sum of squares of the measured induced voltages.

6. (Currently Amended) The method according to claim 2, wherein the state filter implements an algorithm: ~~such as~~

$$X = X_{-1} + (a * V * T + b * dP) \div 2,$$

where X is an estimated position of the rotor at time t,

X_{-1} is an estimated position of the rotor at time t_{-1},

V is a measured speed of the rotor using back EMF voltages at time t_m,

T is a time duration between t_{-1} and t,

dP is the difference between Xm and X_{-1}, wherein Xm is a measured position of the rotor using back EMF voltages at time t_m with $t_{-1} \leq tm \leq t$, and the difference dP is limited to $\pm(c * VT + d)$, and

a, b, c and d are coefficients which depend on characteristics of the motor.

7. (Previously Presented) An electronic device for controlling a synchronous permanent magnet motor with at least one phase, a coil, a rotor, and a motor driver, the electronic device comprising:

detection means connected to the at least one phase of the motor for generating signals that represent induced voltages of the at least one phase of the motor, said detection means having a gain such that the signals representing the induced voltages are significant even if a speed of the rotor is near-zero; and

a control circuit connected to said detection means and to the motor driver for supplying driving currents to the motor, said control circuit comprising means for generating signals representing a position and/or a speed of the rotor from the signals representing the induced voltages.

8. (Previously Presented) The electronic device according to claim 7, wherein the motor includes at least two phases, and wherein said detection means comprises, for each of the at least two phases:

a differential amplifier having inputs connected to two of the at least two phases of the motor; and

an analog-to-digital converter for converting an analog signal outputted by said differential amplifier into a digital signal and providing said digital signal to said control circuit.

9. (Previously Presented) The electronic device according to claim 7 or claim 8, wherein the control circuit further comprises a state filter for filtering the signals representing the position and/or the speed of the rotor.

10. (Previously Presented) The electronic device according to claim 9, wherein said state filter is a Kalman filter.

11. (Previously Presented) The method according to claim 4, wherein the speed of the rotor is determined by computing a square root of a sum of squares of the measured induced voltages.

12. (Currently Amended) The method according to claim 4, wherein the state filter implements an algorithm: ~~such as~~

$X = X_{-1} + (a * V * T + b * dP) \div 2$,

where X is an estimated position of the rotor at time t,

X_{-1} is an estimated position of the rotor at time t_{-1},

V .is a measured speed of the rotor using back EMF voltages at time t_m,

T is a time duration between t_{-1} and t,

dP is the difference between Xm and X_{-1}, wherein Xm is a measured position of the rotor using back EMF voltages at time t_m with $t_{-1} \leq tm \leq t$, and the difference dP is limited to $\pm(c*VT+d)$, and

a, b, c and d are coefficients which depend on characteristics of the motor.

13. (Currently Amended) The method according to claim 5, wherein the state filter implements an algorithm: ~~such as~~

$X = X_{-1} + (a*V*T+b*dP) \div 2$,

where X is an estimated position of the rotor at time t,

X_{-1} is an estimated position of the rotor at time t_{-1},

V is a measured speed of the rotor using back EMF voltages at time t_m,

T is a time duration between t_{-1} and t,

dP is the difference between Xm and X_{-1}, wherein Xm is a measured position of the rotor using back EMF voltages at time t_m with $t_{-1} \leq tm \leq t$, and the difference dP is limited to $\pm(c*VT+d)$, and

a, b, c and d are coefficients which depend on characteristics of the motor.